

**Town of Tyngsborough, Massachusetts
Supplemental Regulations to 310 CMR 15.000,
Title 5 of the State Environmental Code**

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All provisions of Title 5 are hereby adopted by the Town of Tyngsborough by its Board of Health except as otherwise herein.

0.0 AUTHORITY:

The elected Board of the Tyngsborough Board of Health shall be the entity charged with the promulgation and implementation of the regulations and requirements contained herein.

1.0 GENERAL PROVISIONS & ADMINISTRATION

1.1 Effective Date:

These regulations are effective as of June 16, 1998.

1.2 Grand-fathering:

Completed applications received after (effective date of regulations) shall comply with these regulations to the fullest extent possible. Any application claiming relief under the subdivision control act or other legal reason for relief from these regulations shall be required to comply with the regulations in effect prior to (effective date of regulations).

1.3 Purpose:

The purpose of these regulations is to provide for the protection of public health and safety and to provide for the protection of the environment as it relates to public health. As a significant portion of Tyngsborough is not provided with municipal sewerage or water, the preservation of the groundwater supply is of paramount importance. The preservation of this resource is the justification for these supplemental regulations.

1.4 Board of Health Consultant:

When deemed appropriate by the Board, the Board may employ the services of an outside Consultant to assist the Board and the Agent with the review of a specific project. In such cases, the Applicant shall be required to assume the cost to be paid to the outside Consultant.

1.5 Variances for Replacement Systems:

Variances from these regulations and 310 CMR 15.405, Maximum Feasible Compliance, approval through the local up-grade process, may be considered and granted by the Board upon the Applicant's demonstration that full compliance with the respective Codes is unjust or not feasible. The Applicant should be prepared to discuss or demonstrate logistic, economic, site related, or other limitations which would prevent full compliance with the Codes. The absence of such information from the Applicant shall be deemed by the Board as grounds to deny the variance(s). Any variance for replacement systems shall be subject to the public hearing process. Owners of affected properties shall be notified, at least ten calendar days prior to the scheduled hearing, by certified mail as to the time, date and place of the public hearing.

1.6 Variances for New Systems:

Variances from these regulations and 310 CMR 15.000, may be considered and granted by the Board upon the Applicant's demonstration that full compliance with the respective Codes is unjust or not feasible. The Applicant should be prepared to discuss or demonstrate logistic, economic, site related, or other limitations which would prevent full compliance with the Codes. The absence of such information from the Applicant shall be deemed by the Board as grounds to deny the variance(s). Any variance for new systems shall be subject to the provisions of 310 CMR 15.410 and 15.411.

1.7 Conflicting Regulations:

These regulations are supplemental to those contained within 310 CMR 15.000, which are minimum requirements. Should there appear to be any conflict between the requirements of 310 CMR 15.000 and these supplemental regulations, the more conservative regulation shall apply.

1.8 Application and Fees:

Applications for sewage disposal system construction permits shall be completed in full. A plan of suitable scale shall accompany each application for lot testing. The completed application shall be submitted with the appropriate fee as described below.

Fee Schedule:

New Systems:	\$400 per residential lot \$400 + \$50 per multi-family unit \$400 + \$50 per 1,000 sq.ft.(or any portion) of office space
Replacement Systems:	\$200 per residential lot \$400 per non residential facility
Other Fees:	\$100 per each additional site visit or inspection. \$100 per each additional plan review.
Installers License	\$150.00
Septage Haulers License	\$150.00
Fee for taking Installers Exam	\$ 50.00

2.0 SITING OF SYSTEMS, INVESTIGATION AND REPORTING

2.1 Distance to Wetlands:

No part of a subsurface waste water disposal system shall be constructed within one hundred feet (100) of any designated wetlands as defined by local zoning by-laws, the Wetlands Protection Act, G.L. Chapter 131, Section 40, or any watercourse, great pond, including swampy, marches, rivers, streams.

2.2 Deep Observation Holes and Percolation Tests:

A. Number:

A total of three deep observation holes shall be required for the installation of new sewage disposal systems. The Agent reserves the right to require more than three holes where site conditions warrant. Deep observation holes must be back filled by the end of that work day.

B. Configuration:

For new systems, the deep holes shall be configured in the outlay of a triangle such that the primary and reserve systems shall be mainly located at the centroid

of the triangle. Deep hole spacing should be approximately sixty to eighty feet apart. Where systems are to be located on sloping ground, each deep hole shall be conducted at different elevations on the landscape.

C. Purpose:

Each soil horizon, estimated high water table, observed water elevations, depth(s) to bedrock, or other appurtenant data shall be recorded for each deep observation opened.

D. Validity:

Deep observation holes and percolation tests shall be valid for a period of five years providing that it can be demonstrated to the satisfaction of the Tyngsborough Board of Health or its agent, that the original test locations can be found with a high degree of accuracy, and not significant event or development has occurred on the site in question or adjoining sites which might render the original testing data suspect.

E. Scheduling:

Deep holes and percolation tests may be performed year round, clement weather conditions permitting. This period is subject to change at the discretion of the Board or its Agent. All test holes must be backfilled by the end of that work day.

F. Percolation Tests:

Percolation tests shall be conducted in accordance with 310 CMR 15.104 and 15.105. Percolation tests shall be conducted within the limits of the triangle (2.2B) and shall be separated by at least forty feet. No artificial may be used to modify the percolation rate. This includes gravel, washed stone, cans, shovels, newspapers or other materials.

2.3 Siting of Systems:

A. Drainage:

Systems shall be located in such a manner as to provide for proper site drainage such that no water is impounded or retained over the system. Drainage shall be diverted away from building structures. Fill placed for systems shall not cause drainage to be directed onto abutting private properties, or a drainage easement shall be required.

B. Topography:

Systems shall be designed in such a manner to blend into existing topographic conditions, thus reducing, to the greatest extent feasible, the required alteration to the site.

C. Bedrock and Ledge:

To the greatest extent feasible, systems shall be located as far from ledge outcroppings as practicable.

D. Reporting of Findings:

Each site evaluation performed shall be recorded on a State approved form. Accompanying the form shall be a copy of the SCS/USDA soils map showing the extent of the property.

3.0 DESIGN AND CONSTRUCTION OF SYSTEMS:

3.1 Plan Contents:

- A. Each plan to be prepared at a plan scale of 1"=20'.
- B. Plan size to be Size C (18" x 24") or Size D (24" x 36").
- C. Locus Plan at a scale of 1"=800' +/-.
- D. Profile drawn to scale: (H): 1"=20', (V): 1"=4'. The profile shall show, at a minimum, the foundation wall, building sewer, septic tank, distribution box, leaching pipe, existing grades, proposed grades, and any other details pertinent to the design of the system
- E. The following notations shall be listed on each plan:
 - 1. "It is recommended that septic tanks should be pumped out at least once every two years."
 - 2. A notation should be made as to whether the system has or has not been designed to accommodate garbage disposal units.
 - 3. Any variances sought from 310 CMR 15.000 or these regulations shall be so noted on the plans.
 - 4. "The discharge backwash from home water filtration systems shall not be conveyed to the soil absorption system." Any such system shall require installation of a separate dry well. and must be approved prior to installation and the location shown on the as-built plan.

- F. Existing and/or proposed locations of wells on directly abutting lots shall be shown within a distance of 200 feet from the proposed SAS.
- G. Locations of any and all existing subsurface utilities on the property.
- H. The dimensioned lot lines of the entire lot shall be shown on the plan at an appropriate scale. A reference to the record survey plan shall be noted on the plan. Where no record plan is available and a surveyor's seal and signature appear on the design plan, the intent of this regulation shall be met. Mortgage Inspection Plan references shall not be accepted without a variance by the Board.
- I. North arrow.
- J. Results of all subsurface soils testing performed on the lot.
- K. Lot number and street address.
- L. All proposed and existing structures, easements, covenants or restrictions associated with the lot.
- M. Proposed or existing water supply sources for the lot.
- N. If foundation drains are to be utilized, their location and outlet shall be shown on the plan.
- O. Locations of any resource areas identified in the Wetland Protection Act, which are on or within 100 feet of the property, shall be accurately shown on the plans.
- P. Existing and proposed contours at one or two foot intervals shall be shown.
- Q. A benchmark shall be shown within 100 feet of the proposed soil absorption system.
- R. Revisions (date and description) shall be so noted on the plans.
- S. Surveyed locations of all subsurface soils testing shall be shown on the plans.

3.2 Additional Requirements:

- A. Construction shall be undertaken and shall proceed in accordance with the approved plans. Failure to perform field work in accordance with these plans will constitute a basis for revocation of the Disposal Works Permit.

- B. Two copies of the plans shall be submitted to the Board for review. Each copy shall bear the original seal and signature of the Massachusetts Registered Engineer or Sanitarian who prepared the plan. Plans which show copied or reproduced seals or signatures will be returned to the designer.
- C. Pumping of wastewater prior to septic tanks shall not be allowed.
- D. For any facility which may discharge heated grease to a system, the minimum effective capacity of grease trap shall be suitable to accommodate a detention time of 48 hours for the kitchen flow.
- E. Sewer force main shall be either Schedule 80 PVC pipe or SDR 21 PVC pipe. To the greatest extent feasible force main shall be designed in an up-gradient manner to ensure proper drainage back to the chamber at pump shut off. A weep hole shall be drilled into the force main above the check valve to allow for the return of this wastewater.
- F. For systems over 2,000 gpd, in areas where impervious materials exists at or within six feet from the bottom elevation, groundwater mounding calculations shall be provided which shall estimate the anticipated mound beneath the system. Note that the offset to groundwater prescribed by 310 CMR 15.212 shall be applied from the highest point of the anticipated mound. Mounding calculations shall be prepared and sealed by a Civil Engineer registered in the Commonwealth of Massachusetts.
- G. In areas not serviced with municipal water and where the percolation rate of the soil is two minutes per inch or less, there shall be six feet of parent material below the bottom of the leaching area.
- H. In the absence of data contrary to the following, it shall be assumed that the elevation of the groundwater follows the elevation of the existing ground.
- I. If impermeable barriers are utilized, there may be no more than two sides of the system for which these barriers are used.
- J. Any system component designed partially within the high groundwater elevation shall have buoyancy calculations for that component submitted along with the design plan.
- K. Generally, systems shall be designed in a manner which represents the least amount of disturbance or adverse impacts to the existing conditions and resource areas of the property being developed.
- L. Domestic wastewater flows from all dwellings shall be based upon a factor of 110 gallons per day per bedroom. All living space is to be considered bedrooms with the exception of one living room, one kitchen, one attached (Addition) family or great room, and all bathrooms. All other rooms shall be considered as bedrooms for design purposes.

Floor plans of the proposed and/or existing dwelling must be submitted with the sewage disposal system plan. Floor plans must also be submitted with commercial or industrial septic system plans.

M. No bends are allowed in the building sewer from the building to the septic tank.

3.3 Pump Systems:

A. Calculations and specifications for required dosing, static and dynamic head losses, float switch elevations, pump sizing, pipe sizing, chamber sizing, system curve, pump curve and other appurtenant information shall be either provided on the plan or submitted on attached 8 1/2" x 11" sheets.

B. Pumps shall be designed to facilitate pump repair or replacement without direct entry into the tank proper. Use of stainless steel guide rails with chains and union disconnects (or other suitable means to accomplish this goal) shall be incorporated into each design.

C. All pumped systems shall be vented.

D. The existence of a pump on a septic system must be recorded on the deed of the property when the pump is located.

4.0 INSTALLATION OF SYSTEMS:

4.1. The Board and/or its Agent reserve the right to prohibit the installation of systems during periods of adverse weather conditions.

4.2. A copy of the Construction Works Permit shall be posted on-site in a clear, water proof envelope. The permit shall be posted in an obvious location for the entire duration of construction.

4.3. Construction Works Permits must be signed for and picked-up by the system installer. No permits shall be issued without the installer's signature.

4.4. The installer shall make the Agent or the Board aware of any discrepancies between the conditions on the design plans and actual field conditions prior to performing the work.

4.5. A semi-permanent benchmark shall be established on site for construction and inspection purposes within 100 feet of the system.

4.6. The Board of Health shall be notified when inspections in accordance with Sections 4.9 and 4.12 of these regulations are required. Reasonable notice shall be given prior to inspections (at least 48 hours minimum notice).

4.7. All installers licensed in the Town of Tyngsborough are expected to have taken and passed an installer's examination. Upon the occasion of either revisions to State or local regulations, the Board or its agent reserves the right to administer new examinations as the need may arise.

4.8. No subcontracting of a Septic Installers License will be allowed.

4.9. Inspection of Systems:

The following minimum inspections shall be required for all systems. The Agent reserves the right to request additional inspections. The installer may request an additional inspection of fill material prior to placement. There shall be no additional fee to the installer for this inspection. Failure of the installer to request these inspections may result in the Agent declining to issue the Certificate of Compliance.

A. When excavation is completed prior to the placement of any fill or stone bedding. The design engineer shall also perform this inspection, but need not be present at the same time as the Agent.

B. After placement of tanks; pits, galleries, distribution boxes, piping, prior to installation of stone around these items.

C. When stone has been placed around system components, prior to the final back-filling. The design engineer shall also perform this inspection, but need not be present at the same time as the Agent. During this inspection, a water test shall be performed. A five gallon pail of water shall be available for the Agent to adequately inspect the pitch and height of the laterals in the distribution box.

4.10. Installation of trenches in fill shall be performed in a manner to provide straight, vertical side walls. Non-vertical walls may result in a non-issuance of the Certificate of Compliance.

4.11. Changes proposed during construction due to field conditions shall be requested by the design engineer and approved by the Board of Health agent.

4.12. Installation of systems in the winter months will require the following additional inspections:

Bottom of bed inspection immediately prior to stone
Inspection of stone prior to placement

4.13. No frozen materials may be placed, filled or backfilled upon during winter installations. Stone shall be clean without exception. The Board and/or its Agent reserves the right to prohibit the installation of systems during periods of adverse weather conditions.

4.14. The total time of construction for residential septic systems shall be limited to 30 calendar days, unless a written extension is granted by the Agent. The time shall be measured from the

breaking of ground to final inspection and backfill. Extensions shall only be granted in cases of delay caused by weather or valid scheduling conflicts.

5.0 CERTIFICATES OF COMPLIANCE:

5.1 Two copies of an as-built plan of the constructed system shall be submitted and approved by

the Agent prior to the issuance of a Certificate of Compliance. The plan shall be accompanied by a certification, prepared by a Massachusetts licensed Professional Engineer or Sanitarian and the name and address of the installer. The certification shall state that the constructed system is in conformance with the design plans, provisions of 310 CMR 15.000, and the Tyngsborough Board of Health Regulations. Only original seals and signatures shall be accepted.

5.2 The submittal for a Certificate of Compliance shall include copies of the recordation of any easements or deed restrictions required by the design.

5.3 The as-built plan shall clearly show the location of all components of the constructed system as well as the proposed system location.

5.4 All resource areas identified in the Wetland Protection Act, which are located on or within 200 feet of the SAS shall be shown on the as-built plan.

5.5 The asbuilt plan shall show all lot boundaries and the minimum offsets from the constructed soil absorption system to water supply sources, resource areas, property lines, foundations or other times as may be requested by the Board or its Agent. The accuracy of these offsets shall be no less than +/-0.5 feet.

5.6 The as-built plan shall show the surveyed (invert) elevations of the following:

- Building sewer exiting foundation
- Building sewer entering septic tank
- Building sewer exiting septic tank
- Building sewer entering distribution box
- Laterals exiting distribution box
- High end elevations of leaching lines
- Low end elevations of leaching lines
- Top of foundation elevation
- Top of septic tank elevation

5.7 The as-built plan shall show taped tie distances to the septic tank and distribution box from at least two house corners.

5.8 The location of the existing house or foundation shall be shown on the as-built plan.

5.9 As-built plans for pump systems shall show the following additional information:

- Interior dimensions of the pump chamber
- Product cut sheet of the actual pump(s) installed
- Elevations of pump-on, pump-off, alarm-on, lag pump-on
- Invert elevation of building sewer into the chamber
- Taped ties to the chamber from at least two corners of the house

5.10 The as-built plan shall include the installers name and address plus date of inspections.

6.0 INSTALLER'S LICENSES

A license for the installation of subsurface disposal systems shall be issued by the Board of Health upon completion of the necessary application forms and payment of a fee as indicated on these regulations and Title 5 is essential. A written test will be administered based on Title 5 and these regulations before a license is granted for the first time. Only one test may be taken in a 30 day period with a maximum of three tests in one year.

Seventy percent is a passing grade.

7.0 WAIVER PROVISIONS

7.1 The Board of Health reserves the right to waive any or all these requirements for cause as appropriate for specific situations.

7.2 Each of the above adopted local regulations shall be construed as separate so that if any regulation, sentence, clause or phase thereof shall be invalid for any reason, the remainder of that regulation and all other regulations shall remain in force.

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